

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-003271**Date Inspected:** 11-Jul-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1530**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** See below**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG/Tower**Summary of Items Observed:**

Caltrans Quality Assurance (QA) Inspector Sherri Brannon arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China to periodically monitor welding and Quality Control (QC) functions. While on site the QA Inspector observed and/or discovered the following.

OBG/Tower Sub-Assembly**Bay 7-OBG floor beam panels:**

QA Inspector Brannon randomly observed ZPMC qualified welder's, tack welding various floor beam web splice connections and floor beam top and bottom diaphragm flange to web utilizing a shielded metal arc welding (SMAW) process with a 4.0mm diameter electrode, filler metal brand E7018, class TL508 or brand E7018, class ThJ506Fe1. Welding parameters observed by QA Inspector Brannon appear to be in general compliance with the approved WPS-B-P-2112 or WPS-B-P-2112-FCM.

Bay 7-OBG - Floor Beam Sub Assembly:

QA Inspector Brannon randomly observed ZPMC qualified welder's fillet welding various floor beam stiffeners plates to floor beam web plates. Qualified welders was observed welding in the 2F (horizontal) position utilizing a flux corded arc welding (FCAW) process with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H, semi automatic. QA Inspector Brannon observed the ZPMC QC Inspector Mr. Hu Wei Qing verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). Welding parameters observed by QA Inspector Brannon appear to be in general compliance with the approved WPS-B-T-2132-3.

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Bay 7-OBG - Floor Beam Sub Assembly:

QA Inspector Brannon randomly observed ZPMC qualified welder groove welding various floor beam stiffeners plates to floor beam web plates. Qualified welder was observed welding in the 2G (horizontal) position utilizing a flux corded arc welding (FCAW) process with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H, semi automatic. QA Inspector Brannon observed the ZPMC QC Inspector Mr. Hu Wei Qing verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). Welding parameters observed by QA Inspector Brannon appear to be in general compliance with the approved WPS-B-T-2232-Tc-U4b-F.

Bay 7- OBG Diaphragm Diagonal Brace-Sub Assembly

QA Inspector Brannon randomly observed ZPMC qualified welder's fillet welding closure plates to various floor beam diaphragm diagonal brace. Qualified welder's was observed welding in the 2F (horizontal) and 3F (vertical) positions utilizing a shielded metal arc welding (SMAW) process with a 3.2mm diameter electrode, filler metal brand E7018, class TL-508. QA Inspector Brannon observed the ZPMC QC Inspector Mr. Hu Wei Qing verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). Welding parameters observed by QA Inspector Brannon appear to be in general compliance with the approved WPS-B-P-2112, 2F (horizontal) and WPS B-P-2113, 3F (vertical).

OBG/Tower Sub-Assembly

Bay 8 – Heat straightening:

QA Inspector Brannon randomly observed ZPMC personnel performing heat straightening on various tower diaphragm web plates. Cause for heat straightening mill induced distortion. Heat Straightening is performed by flame straightening using natural gas with a hand torch.

Bay 8 OBG Floor Beam Sub Assemblies

QA Inspector Brannon randomly observed ZPMC qualified welder groove welding fill/cover passes for various floor beam web splice. Qualified welder was observed welding in the 1G (flat) position utilizing a submerged arc welding (SAW) process with a 4.8mm diameter electrode, filler metal brand EM12K, class JW3, machine. QA Inspector Brannon observed the ZPMC QC CWI Inspector Mr. Hu Wei Qing verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). Welding parameters observed by QA Inspector Brannon appear to be in general compliance with the approved WPS-B-T-2221-B-L2c-S-1.

Bay 8 OBG-Longitudinal Diaphragms

QA Inspector Brannon randomly observed ZPMC qualified welder groove welding fill/cover passes for various longitudinal diaphragm assemblies. Qualified welder was observed welding in the 1G (flat) position utilizing a flux corded arc welding (FCAW) process with a 1.4mm diameter electrode, filler metal brand E71T-1, class Supercored 71H, semi automatic. QA Inspector Brannon observed the ZPMC QC CWI Inspector Mr. Hu Wei Qing verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). Welding parameters observed by QA Inspector Brannon appear to be in general compliance with the approved WPS-B-T-2231-Tc-U4b-F.

Bay 8 Tower Diaphragm Flange Sub Assemblies:

QA Inspector Brannon randomly observed ZPMC welder welding fill pass's at weld joint # NSD1 SA270 7B.

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Welder was observed welding in the 3G (vertical) position utilizing flux cored arc welding (FCAW) process with a 1.4mm diameter electrode, filler metal brand Supercored 71H, class E71T-1. QA Inspector Brannon observed the ZPMC QC CWI Inspector Mr. Sha Zhi verifying that the welding parameters and pre-heat were in accordance with the Welding Procedure Specification (WPS). Welding parameters observed by QA Inspector Brannon appear to be in general compliance with the approved WPS-B-T-2233-B-U3-F.

The following digital photograph below illustrates observation of the activities being performed.



Summary of Conversations:

No relevant conversations to report.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Ady Velasco 13816942685, who represents the Office of Structural Materials for your project.

Inspected By:	Brannon, Sherri	Quality Assurance Inspector
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Reviewed By:	Cochran, Jim	QA Reviewer
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